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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P. O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

LIANG, LEONARD S

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 2853 | |

DATE MAILED: 07/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|-----------------|----------------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/041,037 | RASMUSSEN ET AL. <i>AC</i> |
| | Examiner | Art Unit |
| | Leonard S Liang | 2853 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on ____.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-16 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
 5) Claim(s) ____ is/are allowed.
 6) Claim(s) 1-16 is/are rejected.
 7) Claim(s) ____ is/are objected to.
 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 01 November 2001 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 11) The proposed drawing correction filed on ____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) The translation of the foreign language provisional application has been received.
 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

| | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3-4</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Double Patenting

1. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Claims 1-16 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 2 and 3 of prior U.S. Patent No. 6318854. This is a double patenting rejection.

| <u>US Pat 6318854 CLAIMS</u> | <u># 10041037 CLAIMS</u> |
|--|---|
| <p>2. An inkjet printing apparatus which moves a media sheet along a media path and marks the media sheet with ink, comprising:</p> <ul style="list-style-type: none">(i) an inkjet printhead having a plurality of inkjet nozzles which eject ink onto a portion of the media sheet located within a print zone, the print zone located adjacent to the plurality of nozzles;(ii) a support which supports the media sheet as the media sheet passes along the media path through the print zone;(iii) a roller located upstream along the media path prior to the print zone, the roller stabilizing the media sheet relative to a first surface during printing onto at least a first portion of the media sheet;(iv) a guide shim located along the media path, the guide shim having a guide surface extending at least from the roller, beyond the roller toward the print zone during printing, the guide shim acting upon a portion of the media sheet between the roller and the print zone to keep the media sheet out of contact with the printhead; and(v) means for advancing the guide shim along the media path toward the print zone during printing to at least a third portion of the media sheet, in which the advancing means comprises means for advancing the guide shim while a trailing edge of the media sheet moves into the print zone; and(vi) having a minimum media sheet page margin corresponding to a distance from inkjet nozzles located nearest to an edge of the guide shim to an area of the guide shim located adjacent to a distal edge of the guide shim while the guide shim is in an | <p>1. An inkjet printing apparatus which moves a media sheet along a media path and marks the media sheet with ink, comprising:</p> <ul style="list-style-type: none">(i) an inkjet printhead having a plurality of inkjet nozzles which eject ink onto a portion of the media sheet located within a print zone, the print zone located adjacent to the plurality of nozzles;(ii) a support which supports the media sheet as the media sheet passes along the media path through the print zone;(iii) a roller located upstream along the media path prior to the print zone, the roller stabilizing the media sheet relative to a first surface during printing onto at least a first portion of the media sheet;(iv) a guide shim located along the media path, the guide shim having a guide surface extending at least from the roller, beyond the roller toward the print zone during printing, the guide shim acting upon a portion of the media sheet between the roller and the print zone to keep the media sheet out of contact with the printhead; and(v) means for advancing the guide shim along the media path into the print zone during printing to at least a third portion of the media sheet <p>2. The apparatus of claim 1, in which the advancing means comprises means for advancing the guide shim into the print zone while a trailing edge of the media sheet moves into the print zone.</p> |

| | |
|--|---|
| advanced position. | |
| <p>3. A method for advancing a media sheet along a media path through a print zone of an inkjet printing apparatus, the apparatus including an inkjet printhead having a plurality of inkjet nozzles which eject ink, the print zone located adjacent to the plurality of nozzles, the method comprising the steps of:</p> <ul style="list-style-type: none">(i) receiving the media sheet at a roller which stabilizes the media sheet along the media path relative to a first surface, the roller located upstream along the media path prior to the print zone;(ii) moving the media sheet under a guide shim toward the print zone, the guide shim acting upon a portion of the media sheet to maintain flatness and advance accuracy of the media sheet as a trailing edge of the media sheet travels beyond the roller toward the print zone;(iii) ejecting ink onto a portion of the media sheet located within the print zone;(iv) advancing the guide shim along the media path toward the print zone while a trailing portion of the media sheet moves into the print zone; and(v) discontinuing ejection of ink onto the media sheet while leaving a media sheet margin at least as large as a minimum bottom margin, wherein the minimum bottom margin corresponds to a distance from inkjet nozzles located furthest from an edge of the guide shim to an area of the guide shim located adjacent to a distal edge of the guide shim while the guide shim is in a advanced position. | <p>10. A method for advancing a media sheet along a media path through a print zone of an inkjet printing apparatus, the apparatus including an inkjet printhead having a plurality of inkjet nozzles which eject ink, the print zone located adjacent to the plurality of nozzles, the method comprising the steps of:</p> <ul style="list-style-type: none">(i) receiving the media sheet at a roller which stabilizes the media sheet along the media path relative to a first surface, the roller located upstream along the media path prior to the print zone;(ii) moving the media sheet under a guide shim toward the print zone, the guide shim acting upon a portion of the media sheet to maintain flatness and advance accuracy of the media sheet as a trailing edge of the media sheet travels beyond the roller toward the print zone;(iii) ejecting ink onto a portion of a media sheet located within the print zone;(iv) advancing the guide shim along the media path toward the print zone while a trailing portion of the media sheet moves into the print zone |

As seen in the above table, US Pat 6318854 discloses all the limitations of claims 1-2 and 10 in the pending application, thus making the double patenting rejection proper.

Claims 3-9 and 11-16 depend from rejected claims 1-2 and 10.

Drawings

2. The drawings are objected to because in figure 6, reference 33 represents a roller, while in figures 3-5 and 8-9, reference 33 represents a direction. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 19. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Information Disclosure Statement

3. The information disclosure statement filed 11/01/01 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

The documents JP60048385, JP 05112001, and JP07304167 have come with an English abstract; however, the actual Japanese patents themselves have not been included.

Claim Objections

4. Claim 4 is objected to because of the following informalities: there is a lack of antecedent basis for "said second surface". It will be construed that the claim should state "The inkjet printing apparatus of claim 3, in which the support is an endless belt, and wherein the endless belt...". Appropriate correction is required.

Claim Rejections - 35 USC § 103

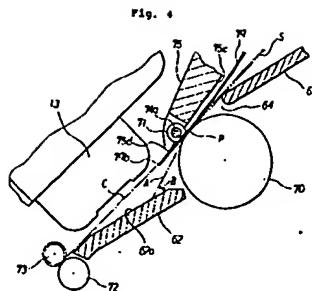
The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3, 5-6, 8-11, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Umeda (US Pat 5800076) in view of Watanabe et al (US Pat 5019839).

Umeda discloses:

- {claim 1} An inkjet printing apparatus which moves a media sheet along a media path and marks the media sheet with ink (figure 4); an inkjet printhead (figure 4, reference 13; column 3, lines 52-67); a support (figure 4, reference 62); a roller (figure 4, reference 70); a guide shim (figure 4, reference 79; column 6, lines 13-



- {claim 3} a second roller (figure 4, reference 72)
- {claim 5} the support moves along a path between the first roller and second roller while supporting a trailing portion of the media sheet (figure 4)
- {claim 8} the inkjet printhead is a scanning type printhead which scans across the media sheet in a direction orthogonal to the direction of media sheet movement along the media path (column 3, lines 52-67)
- {claim 9} the plurality of inkjet nozzles are organized into a plurality of rows, each row extending in a direction orthogonal to the direction of media sheet movement along the media path (figure 4)
- {claim 10} A method for advancing a media sheet along a media path through a print zone of an inkjet printing apparatus, the apparatus including an inkjet printhead having a plurality of inkjet nozzles which eject ink, the print zone located adjacent to the plurality of nozzles (figure 4); receiving the media sheet at a roller which stabilizes the media sheet along the media path relative to a first surface, the roller located upstream along the media path prior to the print zone (figure 4, reference 79; column 6, lines 13-31); ejecting ink onto a portion of the media sheet located within the print zone (column 3, lines 52-67)

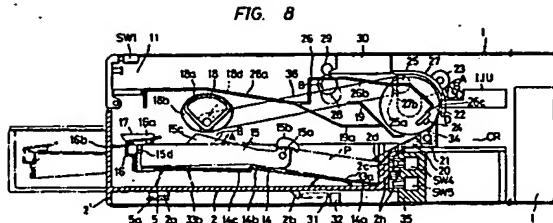
- {claim 11} the roller is a first roller and further comprising the step of receiving the media sheet at a second roller which stabilizes the media sheet along the media path relative to a second surface, the second roller located downstream along the media path after the print zone (figure 4, reference 72)

Umeda differs from the claimed invention in that it does not disclose:

- {claim 1} means for advancing the guide shim along the media path into the print zone during printing to at least a third portion of the media sheet
- {claim 2} means for advancing the guide shim into the print zone while a trailing edge of the media sheet moves into the print zone
- {claim 6} a sensor which detects position of the media sheet and generates in response a sensor signal; means responsive to the sensor signal for activating the advancing means to move the guide shim along the media path
- {claim 10} advancing the guide shim along the media path into the print zone while a trailing portion of the media sheet moves into the print zone
- {claim 14} the step of detecting a trailing edge of the media sheet, and in which the step of advancing comprises advancing the guide shim along the media path in response to the detection of the trailing edge

Watanabe et al discloses:

- {claim 1} means for advancing the guide shim along the media path into the print zone during printing to at least a third portion of the media sheet (figure 8, reference 27; column 10, lines 42-61)



- {claim 6} a sensor which detects position of the media sheet and generates in response a sensor signal (column 10, lines 17-24)
- {claim 10} advancing the guide shim along the media path into the print zone while a trailing portion of the media sheet moves into the print zone (figure 8, reference 27; column 10, lines 42-61)
- {claim 14} sensor (column 10, lines 17-24)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Watanabe et al into the invention of Umeda so that there is movable guide shim which maintains a sheet under an inkjet printhead as the sheet moves past the printhead in a designated print zone. The motivation for the skilled artisan in doing so is to gain the benefit of decreasing cockle to enhance a printed image. The combination naturally suggests means for advancing the guide shim into the print zone while a trailing edge of the media sheet moves into the print zone; means responsive to the sensor signal for activating the advancing means to move the guide shim along the media path; and the step of detecting a trailing edge of the media sheet, and in which the step of advancing comprises advancing the guide shim along the media path in response to the detection of the trailing edge.

6. Claims 4, 12-13, and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Umeda (US Pat 5800076) in view of Watanabe et al (US Pat 5019839), as applied to claims 1-3, 5-6, 8-11, and 14 above, and further in view of Eckl (US Pat 4821049).

Umeda further discloses:

- {claim 15} moving the media sheet onto a support (figure 4, reference 62)
- {claim 16} the roller is a first roller (figure 4, reference 70)

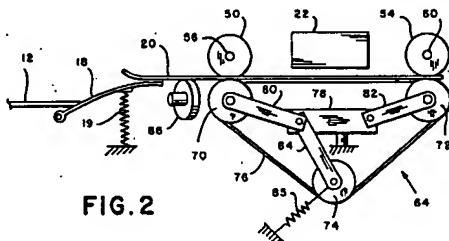
Umeda, as modified, differs from the claimed invention in that it does not disclose:

- {claim 4} the support is an endless belt, and wherein the endless belt comprises an outer surface upon which the media sheet rests, the outer surface being the first surface and the second surface
- {claim 12} the inkjet printing apparatus includes an endless belt which supports the media sheet as the media sheet passes along the media path through the print zone, wherein the step of receiving the media sheet at the first roller comprises pressing the media sheet to the endless belt, wherein the step of receiving the media sheet at the second roller comprises pressing the media sheet to the endless belt, the endless belt comprising the first surface and the second surface
- {claim 13} the inkjet printing apparatus includes an endless belt which supports the media sheet as the media sheet passes along the media path through the printzone, and wherein the step of moving the media sheet under a guide shim toward the print zone comprises the step of driving the endless belt to carry the media sheet under the guide shim toward the print zone

- {claim 15} moving the support along a path away from the roller while supporting a trailing portion of the media sheet during printing to at least a portion of the media sheet
- {claim 16} the step of moving the support comprises moving the support along a path between the first roller and a second roller while supporting a trailing portion of the media sheet along the media path after the print zone

Eckl discloses:

- {claim 4} the support is an endless belt, and wherein the endless belt comprises an outer surface upon which the media sheet rests, the outer surface being the first surface and the second surface (figure 2, reference 64)



- {claim 12} the inkjet printing apparatus includes an endless belt which supports the media sheet as the media sheet passes along the media path through the print zone, wherein the step of receiving the media sheet at the first roller comprises pressing the media sheet to the endless belt, wherein the step of receiving the media sheet at the second roller comprises pressing the media sheet to the endless belt, the endless belt comprising the first surface and the second surface (figure 2, reference 64)

- {claim 13} the inkjet printing apparatus includes an endless belt which supports the media sheet as the media sheet passes along the media path through the printzone, and wherein the step of moving the media sheet under a guide shim toward the print zone comprises the step of driving the endless belt to carry the media sheet under the guide shim toward the print zone (figure 2, reference 64; column 3, lines 61-68)
- {claim 15} moving the support along a path away from the roller while supporting a trailing portion of the media sheet during printing to at least a portion of the media sheet (figure 2, reference 64)
- {claim 16} the step of moving the support comprises moving the support along a path between the first roller and a second roller while supporting a trailing portion of the media sheet along the media path after the print zone (figure 2, reference 64)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Eckl into modified Umeda. The motivation for the skilled artisan in doing so is to gain the benefit of being able to movably transport the sheet while mitigating the effects of substrate thickness variations (column 4, lines 34-35).

7. Claims 4, 12-13, and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Umeda (US Pat 5800076) in view of Watanabe et al (US Pat 5019839), as applied to claims 1-3, 5-6, 8-11, and 14 above, and further in view of Hackleman et al (US Pat 5719602).

Umeda teaches all limitations of the claimed limitation except for the following: the inkjet printhead is a pagewide array printhead.

Hackleman et al discloses that the inkjet printhead is a pagewide array printhead (column 1, lines 21-67).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the pagewide array printhead disclosed by Hackleman et al into the invention of modifies Umeda. The motivation for the skilled artisan in doing so is to gain the benefit of achieving faster print speeds (column 1, lines 49-50).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Martenson et al (US Pat 5821952) discloses a method for automatic print head spacing in an ink jet printer.

Uchida et al (US Pat 5943081) discloses an image recording apparatus.

Witte et al (US Pat 5456543) discloses a printer motor drive with backlash control system.

Kilb et al (US Pat 5000597) discloses a device including an elastic covering for transporting record substrates in office machines, in particular for records in record processing apparatus.

Sato et al (JP Pat 06198993) discloses a cut-sheet conveying device.

Kelly et al (US Pat 5927877) discloses a print media handling and ejection system.

Ebata et al (US Pat 5966158) discloses a sheet feeding apparatus.

Milkovits et al (US Pat 5625398) discloses a thin, shallow-angle serrated hold-down with improved warming, for better ink control in a liquid ink printer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard S Liang whose telephone number is (703) 305-4754. The examiner can normally be reached on 8:30-5 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on (703) 308-2847. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

lsl *LSL*
June 26, 2003



Stephen D. Meier
Primary Examiner